



***Genius on the Edge: The Bizarre Double Life of Dr. William Stewart Halsted* by Gerald Imber, MD**

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Reviewed by F. David Winter Jr., MD

Where would the field of surgery be today were it not for Dr. William Stewart

Halsted? This book begs the

question. Dr. Imber tells a fascinating narrative of this “larger-than-life” pioneer. He writes in a captivating style, telling the story of the development and standardization of the field of surgery by the focused work of this complicated man.

Halsted was born in 1852 in New York City. His grandfather had been a physician in a time before medical specialties. Halsted’s father did not follow into the grandfather’s profession. He became a wholesale importer of dry goods and became sufficiently successful to afford his son private schooling. Public education in New York at the time was said to be “inadequate.” After a lackluster performance in undergraduate studies, the future surgeon steadily improved in college and then “immersed himself” in the reading of medical books and “spent his free time around the laboratories and clinics at the Yale medical school,” to which he was eventually accepted as a student. Halsted’s father had expected his son to join the family business. The decision to become a physician “would change the face of modern medicine.”

Halsted became fascinated with anatomy and physiology. This led to specialization in a new field in which less than a dozen others called themselves surgeons. Without the benefit of anesthesia or aseptic techniques, operations were challenging. When surgery was required, “the outcome was often as disastrous as if the injury had gone untreated. Operations were performed in only the direst of circumstances,” and the associated infections and blood loss resulted in mortality rates of nearly 50%.

In this book, Gerald Imber chronicles the standards established by Dr. Halsted, which allowed the field of surgery to advance from “butcher shop reputation to respectability.” His first major accomplishment was the introduction of anesthesia, “which greatly relieved suffering and transformed the surgical profession.” Previously, “patients were held down by several strong men and restrained from thrashing until they ultimately fainted away.” His work with anesthetics came at great personal expense, as his early experimentation with cocaine led to the addiction that would haunt him the rest of his life.

The principles of sterility also became routine under his leadership. It is difficult to conceive of surgeons walking into the operating room, rolling up their sleeves, and then beginning an operation with bare hands, but that was the way things were

initially done. "Scrub suits and sterile gloves began in Halsted's operating rooms." Other Halsted principles include the gentle handling of tissues, scrupulous hemostasis, tension-free closures, crush-free dissection, and strict application of surgical anatomic knowledge. ("He had memorized *Gray's Anatomy*.")

The proper surgical treatment of hernias, breast cancer, and gallbladder disease all began with Halsted. Today, "500,000 hernia operations are performed annually in the United States." Prior to Halsted's surgical approach to hernias, they were said to have "represented a significant economic and physical burden to the individual and to society. . . . Not only are they painful, but they carry the potential to become incarcerated." Nonsurgical reduction of hernias in Halsted's times often resulted in "perforation, peritonitis, and death." When word of Halsted's surgical treatment of hernias became known, patients traveled from all over America to see him.

"One hundred years ago the breast cancer patient was literally doomed." Halsted changed all that. He developed an "operation against which all others had to be compared." For the very first time in history, prolonged remissions and even cures from the malignancy became possible.

Gallbladder disease also was a deadly affliction. At the age of 30, Halsted "successfully performed the first known operation to remove gallstones" to save the life of his own mother. Ironically, he himself would later succumb to complications from this illness as others' hands proved inadequate to save the master.

Halsted's surgical career spanned pivotal times in American medicine. The fields of internal medicine, obstetrics/gynecology, and pathology were also in their infancy. Through observation, scientific application, and standardization, Halsted, along with Sir William Osler, William Henry Welch, and Howard Atwood Kelly ("The Very Best Men"), set standards that are still prominent in medicine today.

An endowment from a successful merchant in Baltimore established Johns Hopkins University and Hospital. Under the leadership of "The Big Four," this first academic medical school in the country would set standards for all others to follow. As explained by the well-known Bellevue physician, Dr. Austin Flint, "What was accomplished . . . as regards to knowledge of the causes, prevention, and treatment of disease far transcends what would have been regarded a quarter of a century ago as the wildest and most impossible speculation."

I enjoy biographies that detail greatness and humanness in the same individual and, in that regard, Dr. Imber excels. The author's title portends the complexity of this innovator, whom he describes as "a formidable and eccentric figure . . . enigmatic and detached." Dr. Halsted had a dark side. An addiction to cocaine early in his career forced him out of medicine for 7 months. "His hands shook, he often became suddenly drenched in perspiration, and he lost focus." He "spoke constantly, excitedly, and endlessly, about everything under the sun." His treatment left him with a second addiction, this one to morphine. What is most remarkable is the long list of accomplishments that occurred while he was under the influence of drugs. "For the few who knew of his ability to navigate uncharted waters

while the siren song rang in his ears, his journey was nothing short of heroic."

In this book, Halsted is characterized as "forbidding and nurturing; rigid, proper, and secretive; compulsive and negligent; stimulating and reclusive; addicted and abstemious; oblivious and solicitous." He had a "quiet, cold demeanor" and was intolerant of talking or excessive noise in his operating room. Levity was out of the question, and the current use of music and nonpertinent discussions during an operation would never have been allowed. In regards to his students, "if one was insecure enough to require reassurance and compliments, one was certain to be sorely disappointed. . . . Abject disapproval would be . . . delivered unemotionally, in a quiet and withering tone, with an expressionless face and unyielding ice blue eyes. In one case Halsted told a resident, in all seriousness, that he should specialize in operating on piles (hemorrhoids), as it would not be too taxing for his abilities."

His firm, foreboding temperament demanded attention and respect. Relationships with his wife, his colleagues, his patients, and his students were convoluted, often strained. In the operating room, he displayed "intense concentration, . . . unbending demands for excellence" and lavished attention "on even the most trivial detail of his surroundings." This demeanor carried over into his personal life, as he "became increasingly aloof, and perhaps out of touch with simple human situations." "No one every remembers him actually laughing."

Imber proclaims that "every individual in America who undergoes successful surgery owes William Stewart Halsted a nod and deep debt of gratitude." His "principles of surgery" are still practiced today. "Virtually every academically affiliated surgeon can trace his or her teachers, and his teacher's teachers to William Stewart Halsted." Furthermore, "every well-trained surgeon in the world is trained in a Halsted-type system, and all still live by the Halsted principles of surgery."

I strongly recommend this book to all who are intrigued by the history of medicine, to those who admire pioneers who leave their mark on humanity, and to everyone who has benefited from a surgical operation. A "nod and deep debt of gratitude" indeed is due to this extraordinary man.

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